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The Definition of Education



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THE DEFINITION
OF
EDUCATION

BY

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A Synopsis and Outline of Lectures
Delivered in the Normal Class.

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PREFACE

The material brought together in the present work is the result of several years of study along educational lines, and observations and experience resulting from teaching in various grades and classes of schools. In the present form they are in essence and order the development of a series of lectures delivered before the splendid large Normal Class of Teachers in Virginia Christian College, Lynchburg, Virginia.

No credit is due for anything new in this field of thought. The only excuse for placing it in book form is that certain features are deemed worthy of such emphasis, and certain viewpoints are worthy of particular notice. Especially is this true concerning the insidious influences and processes which tend to reduce education to material evolution, governed entirely by reason. No true discussion of the mind is possible unless the influence of the Divine and the power of Faith be recognized. Evolution, so-called, is impotent to explain either the final test for ethics, or the ultimate content of education. This century will witness a re-adjustment of education from the plane of mere intellectuality to the sphere of a dominant CHRISTIAN Education. May this modest effort be found emphatically upon the side of such results.

Not as a finished dissertation, but as a synopsis of a comprehensive scheme is this monograph sent forth by

THE AUTHOR.

Lynchburg, Va., May 10, 1914.

THE DEFINITION OF EDUCATION

I. POPULAR VIEWS OF EDUCATION

Although Education is undoubtedly a Science, it is not one of the Exact Sciences, because in its definition and scope it has never been uniformly considered, nor have its laws been formulated systematically. This is precluded by the nature of mind itself, and the mind is the real subject in education. The Mineral, Vegetable, and Animal Kingdoms provide material whose properties and phenomena are reducible to exact principles and laws, consistent in general, to man's rational grasp. But in considering Mind, the Psychic Kingdom, faith, to a certain extent, must replace reason, and the properties and phenomena concerned are to a less extent reducible to exact principles and laws. This is because of Man's divinely-given right of choice.

Although studied for thousands of years, we have very diverse statements of views of education as given today. Without a more commonly accepted view, we can have no adequate basis upon which to found a Science. Proper definition is necessary for a correct development of Science, or Mathematics, and it is equally as important in Psychology and Education. If one man uses a term to express one meaning, and another the same term to express

a different meaning, clearness must suffer. It is just such lack of unity that has led to the diverse views of Education which exist today. As a result any man who is called upon to discuss Education, is compelled to formulate his ideas of what Education is.

In consequence, we have a varied statement of the views of education. But what are these views? Briefly, a number of them are discussed as follows:

1. *Education is an Accumulation of Knowledge.* This tenet has come down the ages with myriads of followers. In all probability it is the most generally accepted view at the present time. To many, the mere mastery of text-books is the essential of education, and they are in favor of barring the subjects like Higher Mathematics and the Ancient Languages because such accumulations of knowledge are almost valueless as such. Blindly in the past, and just as blindly in the present, the advocates of this theory tenaciously hold their course. They actually accomplish some valuable educational results, not realizing, however, that it is incidental and not as a product of their method. Examinations are the stock in trade of these educators. A Chinese wall of parrot scholarship is built, including an aristocracy of learning, more fixed than any of birth or wealth.

2. *Education is an Evolution.* The adherents to this theory have applied to mental development in the individual, the evolutionary processes attributed to progressive civilization. Just as in the childhood of the race, languages originated, barbarity abounded, sensations were over-trained, and lastly, the ethical and rational developed; so, in the individual, the child learns to talk, vicious instincts predominate, sensation is alert, and lastly, morality and reason develop. Thus viewed, the history of civilization repeats itself in natural order in the growing mind and varying tastes of the pupil. The baby is a barbarian; the child, a savage; and only adult life is typical of modern civilization. While the parallel does exist, it is not so clear that it is caused by any evolutionary tendencies; indeed,

that it is anything more than a figure is extremely fallacious. Some of the generalizations of this class of theorists are ingenious, but their truth is open to the same criticism so evident to other of the Evolution theories.

3. *Education is a Material Change.* In this theory Material Psychology is used as a basis, and education is a process of properly impressing matter through its energy functions: sensation and thought. This limits the application of educational attainments to life, merely, or just so long as the corporeal mechanism possesses vitality. Education is thus reduced to a sordid life condition. It is an expedient fairly valuable for this life, but ceases at death. Advocates of this theory compare the mind to marble, which under the careful chiseling of the master sculptor, the teacher, can be carved into the most delicate and beautiful results, or irretrievably ruined by a single false stroke. While beautiful as a simile, this does not, in the completest sense, represent education. A more appropriate figure would be to represent the mind as wax, or soft plaster, from which the beautiful figure can be moulded; where false strokes can be eradicated, although with outlay of time and patience. In this theory, the brain cells being literally matter, the educative processes are designed to produce permanent change in them. Those who reject the material mind, consider the shaping process as not terminating upon the brain matter itself, but through it, upon the immaterial mind.

4. *Education is an Emancipation from Environment.* In this beautiful theory, mankind is represented as being originally placed in a position and under a condition, where he was without experience and knowledge, and more or less helpless amidst his surroundings. That, in this savage state, he discovered his ability to clothe and shelter himself, thus emancipating him from the effects of heat and cold. His advance from savagery to civilization, up the long path of the ages, has been a continual effort to make himself less and less the victim of environment, and more and more able to shape that environment to his own

culture, luxury, and enjoyment. He has emancipated himself from fatiguing journeys by swift machinery of motion, and from disease by sanitation, and thus even lengthened the average span of life.

5. *Education is a Process Preparing for Complete Living.* Spencer sought to develop an interest in the practical side of education, and in so doing rendered a valuable service to the cause. Extreme advocates of these ideas generally limit the thought of completeness to a limited scope with the result that the object of the complete living to be attained centers in selfishness or fad. This agitation has proved beneficial in calling back those who preferred abstract studies as tools of development, to a concession to practical studies, in so far as they, at the same time, met the needs for true growth. We have learned that there is as much discipline obtained in properly teaching a practical science as in the study of a dead language.

6. *Education is the Forming of Character.* There is no doubt but that as an end to be attained through training, all true education does result in such a product. Education, however, is a process and not a product, and the teacher must deal with the process. Character is the result of mind growth in the proper direction, influenced by right motives, and fixed by the forming of right habits. The horticulturist, truly, as an analogy, seeks to produce the perfect apple, but his duties are all concerned in the culture and care and arrangement of environment through which the perfect fruit is obtained.

7. *Education is the Means of Developing Rational Beings.* It is evident that formal processes of reasoning and the fixing of truth in the character of the individual, in consequence, is a part of education. But education must be more. Mere rationality does not make one an educated being. Of course, through an explication of the scope and meaning of the term "rational" as here used, it might be made to include much that passes generally under the head of education. Right thinking is essential to real development, but practice in expression is quite as necessary.

8. *Education is a Training in Behavior, Produced through Habits.* This gives us another view of education, but the definition is defective in that it places the object of the process, and one of the means by which it is attained as the meaning of the term. It is true that habit-forming is one of the most important factors in education, and the habits invariably determine the behavior. But education is more than behavior. It is a process; it is an activity. Its true definition must be approached from that position.

9. *Education is a Growth.* The greatest impetus to the intelligent study of education has come from its consideration as a real growth. As plant life, or animal life, to evince growth, requires natural conditions, natural transpositions, and resulting natural products; so mental life grows, and that, too, under rational restrictions and laws, even though modified by spiritual forces. When we have a real Science of Education, it will come through the reduction of these natural processes to formulated laws. It will never come through empirical laws, for the very freedom of mind precludes such a possibility. A perfect plant and a perfect animal is possible when developed through natural means; an abnormal plant and stunted animal result invariably from unnatural means. Culture tending toward the perfect mind is possible only through proper growth, while a mental monstrosity results from any other. Dr. B. A. Hinsdale said: "The common conception of education makes it consist of attainments or knowledge, but the proper conception makes it mental growth or power of mind."

II. THE DEFINITION OF EDUCATION

The idea of growth requires emphasis in Education. Christ said, "First the blade, then the ear, after that the full corn in the ear." Like most of his surprising teachings, this reveals a wonderful insight into the workings of the mind of man. In it, he recognizes the purpose of God in unfolding the Divine plan in harmony with the changing and growing needs of mankind. Why did God take four thousand years to perfect his plans for man's redemption? Because he had created in him the freedom of choice, a mind capable of initiation, of reason, and of execution. His dealings with man have recognized the principle of intellectual as well as of physical growth.

After testing education by the theories of centuries, and measuring it by the standards of accredited truth, we come to look upon it as a process analogous to the distinguishing vital function called growth. In coming to this position, we have discovered nothing new. The so-called "new education" is not new. Its foundation principles were the basis of Christ's teachings; it was consistent with God's method from the beginning. So, in recognizing the entire system of education as resting upon growth, we do not antagonize the teaching of the spirit of the Great Teacher, neither do we assert a principle that contravenes that which is true in the theories of those in authority from that time until now. Dr. R. H. Holbrook said, "God might have created all things perfect, making change unthinkable, progress, learning, happiness, and salvation impossible, but he did not. Free-will, self-responsibility, and the partnership of man with God as creator, are possible and thinkable only as under a law of growth established by God. All growth is of the Divine, not of the human, since growth is but a plan by which Divine force works."

Starting with the principle of growth, we must clearly determine the entity upon which, and in which, the grow-

ing processes act. If we accept the Spartan idea, then physical growth might pass for education; if we receive the theory of many modern speculators, then rational growth might be designated as true education. It is thus possible to have the theories already noted, and more, passing for education. Such a condition lacks the exclusion and exactness that a term of such importance demands. The intellectual is not enough, either, to include all the content of education; the sensibility and will also need growth and training. Intellect, sensibility, and will constitute what is called the mind, and hence the entire mind is concerned in education. From this consideration, we will now make a formal statement of the definition of Education:

Education is the correct growth of the mind in motives, tendencies, and habits. This definition is designed for education as it appeals to us. There may be growth in motives, tendencies, and habits which are evil as well as in the right. This phase requires that the above definition can be made perfectly general by the omission of the word "correct." The great failure in developing and defining education is, in consequence, the inability to limit and fix it. Every effort to do so has partaken of the same illogical basis that morals, or systems of ethics, have encountered: the lack of a standard. And just as Christ, and the Christ doctrine must be the determining factor in ethics, just so must his life touch and spiritualize education if it is to be free from criticism. Hence, an education may like ethics reflect the borrowed light of Christ's righteousness, in public education, secular education, and the like, but it will never be based upon the truth until it rests upon Christ for its standard of measurement. This is what has made the Church school, and the Church college, and the Church university a more potent factor in true education than it has been accredited. If there is any one germ of virility in the new education above the old, it is this tinge for righteousness, even if unrecognized. The time has come, when this obligation of education to the

teachings of Christ must be acknowledged, and if the world compels the elimination of the Christ factor in it formally expressed, it must be understood as implied. To this end, the word "correct" is made to recognize this standard of authority in the definition as expressed above. Any development of mind which does not result in a growth toward the Christ, or at least toward a condition consistent with his teachings, can not be considered as conforming to this test.

It is to be noted, in passing, that all real education is included in this definition because in a broad sense "correct growth" of mind insures the so-called Moral education, and Physical education is a necessary condition for such growth. A correct growth of mind depends upon a correct growth of body as well. The body exists for the mind.

With the ascendancy of Democratic and Republican government, education passed from the control of the Church to the control of the government. This is proper, and no part of our free government is more worthy than the facilities it presents for the advancement of learning. But conditions have very much changed. Although our government was based upon a recognized separation of State from Church, the fact remained that the Church and religious influences permeated the popular mind, and the moral element was especially reflected in the teachers and teaching of the early times. The Bible was the most generally used text-book in the schools. It was the one text through which many a child learned to spell and read. The instruction in consequence was not only moral, but it was a morality based upon religion, with the Revelation of God as the real standard for testing the correctness of the ethical principles impressed. But a designing minority has influenced much in our government and has changed the nature of our schools. At first, it was content in banishing the Bible as a text, but as time went on, its influence secured the abolishment of the book as even a source of reading and instruction, and in some localities for the teacher to even read an opening lesson from it each day.

would inaugurate a riot or result in driving the teacher from the school. The generation of teachers of today, in consequence, has been the product of an education which has tested its advancement and verified its conclusions from sources other than Revelation. Philosophy, the Theory of Evolution, and the uncertainties of Criticism have become the standards for testing the educational processes and results. The time has come, not only to go back to Revelation, but to place the Bible once more in the Public Schools. An education can not be normal unless it has in it the elements of Christianity and takes its direction through that influence.

The spiritual element in education can not be safely neglected. Denominational education is not essential, but Christian education is. The growth of mind is of such a nature, and its spiritual development so much an integral part of it, that any system of education that disregards it is a warped, unsystematic, unnatural process. The God behind truth, the God author of truth, the God power in truth can not be rightly eliminated and normal growth result.

The small church college is the real force in American education today. The great spirit pervading the teaching profession has been kindled by this influence. The greatest catastrophe that could befall our schools would be the elimination of this vital influence from the teaching staff of our land. This influence gives us leaders whose character is the product of Christian environment, personal contact with spiritually enlightened souls and normal intellectual activity. Dr. Chancellor says, "There never was culture without religion, and there can be no real college education divorced from the Bible and church influences."

The standard for testing growth of mind is the revealed Word of God. Science can prove an originating and guiding power, but it can not establish the attributes and nature of that power in its fullness; revelation is our only authentic source of knowledge of God. We should not limit his power to the few laws he has given for the control

of the universe, nor limit his logic to the few laws of human philosophy. Hence through faith we can accept his miracles and believe his revelations, even though they contradict our science and transcend our theories. The theories of science are but the effort toward explaining the phenomena with which science deals. These theories are to be made at all times subservient to God's revelation, and adjusted to it, and no effort made to adjust revelation to the so-called science. Any attempt at an empirical teaching of speculation as truth is to be deplored, and its dangers are evident. The mind of man is not greater than the wisdom of God; hence, when the theories of man and the teachings of God conflict, man is in error. His conclusions should not be considered as final, but as tentative and speculative. Education tested by the true standard owes a debt to the world. It is its duty to stamp the wild, man-centering theorizing, which so often passes for scientific truth, with its real value and perspective, and in accepting as true just such as conforms to the standard adopted. Any other method will lead to the unsettling of Christian conviction, and consequent religious uncertainty. Materialism in science and philosophy is rightly losing its authority; it is no longer necessary for the student to be skeptical in order to be scientific. Empirical scepticism, however, has so firmly entrenched itself in text-book and authority that it needs a teacher of spiritual discernment to help the student discover the sophistry and lay bare the dazzling gloss.

The definition of education as given in this chapter involves the consideration of six terms: (1) Correct, (2) Growth, (3) Mind, (4) Motives, (5) Tendencies, and (6) Habits. The first of these has been considered as related to a proper standard for testing the correctness of the educative processes. The others will be considered, a chapter being given to each, in the pages which follow. For reasons that will appear, the subject of Mind will be taken up before the Growth.

III. THE MIND

The old Psychologists recognized two phases of the nature of man as Spirit and Soul. The former was the moral and religious power; the latter, the rational. The Spirit was the eternal principle, the part surviving death; while the Soul, like the body, was put off and ended when the Spirit took its flight from the body. This led to the recognition of two distinct kinds of education: (1) The moral, or spiritual; and (2) The so-called intellectual.

The modern Psychologists have gradually built up a system which minimizes the Spirit phase and enlarges the scope of the Soul. They have recognized every faculty of spirit as closely related to the faculties of the Soul. In short, it is untenable today to conceive of a phase of man's immaterial nature which can exist apart from memory, reason, judgment and imagination. These faculties are as essential to morals, to religion, and to the revealed eternal condition as they are to the so-called intellect. But with this shifting of the faculties to the Soul exclusively, the moral, religious, and eternal ideas have, in a large measure, been abandoned, and the intellectual phase made prominent. From such a result, education has assumed the consideration of an intellectual process entirely, for they have failed to recognize the moral and religious in this New Education.

The nature of man as recognized, generally, then, can be thus summed up:

- I. Body: the dwelling place,
- II. Spirit: the vital link,
- III. Soul, or Mind: the eternal principle.

And this is the way I desire to consider man in my conception of Education. I would, however, conceive that the moral and religious is as necessary of training as the intellect, and essential to a correct training of the mind.

The religious writer, on the other hand, has departed widely from the psychologist. While the psychologist has transferred the formerly recognized faculties of Spirit to Soul; he has transferred them from Soul to Spirit. This is clearly set forth by Goodwin, who said, "The spirit of man is that part of our nature which corresponds to the infinite Father of Spirits. It is the ego, the personality, the man within the man, from which as the utmost fountain or heart of our being, thought, affection, volition, and character proceed. It is the seat of moral responsibility, the organ of faith and love, and so of religion and communion with God. It is the highest and divinest part of our nature, the very image of God in which we were created. The soul, or psyche, is that which gives life to the body as its indwelling or animating principle. It is not a free and self-active power, like the pneuma, not visible and material, like the body, not a self-conscious intelligence enlightened from within or above, but derives all its knowledge from the senses, and its humanity, by which it is differentiated from the animal souls, from the spirit. It is thus a connecting and a mediating link between body and spirit, bringing down the spiritual into the sphere and life of the body, and elevating the physical to be the instrument and organ of the spirit." If the terms "soul" and "spirit" as here used by Mr. Goodwin were reversed, this quotation would be a clear statement of the generally accepted psychological view.

Man is a wonderful trichotomy. Whether his three-fold nature is a part of that fact that he was created in the image of the triune God, concerns the theologian and not the educator. As we know him, and bring educative powers to bear upon him, we find him composed of body, the dwelling place; soul, or mind, the controlling principle; and a vital, connecting link, termed spirit. To avoid the confusion before noted, I shall speak of the Soul as Mind.

The mind is eternal. Granting that there may be certain mind limitations so closely related to the body that a dissociation of body and mind may cause their elimination

from the eternal soul, we must still recognize the eternal, and the everlasting in man. Reason does not prove it, law does not fix it; it is the product of faith, the fixed fiat of revelation. The teacher who does not tremble in the face of his great responsibility in dealing with the eternal soul, has never been born into the life of a teacher.

The mind is immaterial in the sense of our usual conception of matter. Since it is imponderable, its phases can best be understood through analogy. The best objects for consideration from analogy are plants and animals, in their relation to growth. In plants the minerals from the soil and gases from the air are acquired as food for growth. These are changed, transformed, and assimilated into plant cells and differentiated into various tissues. These tissues express themselves in substances of economic value, in flower, and in fruit. In the animal body the foods from minerals, plants, and animals are acquired and absorbed, the valuable portions assimilated into cells and tissues of the body, and expressed through heat, cell-growth, and force. So, in mind, we can reason by analogy that in order to grow, there must be certain factors or appropriate foods supplied; these must be assimilated by the mind, changed, transformed, and expressed as ideas, words, speech, gesture, or art.

The mind is a unit. While psychologists divide it for convenience into certain functions and parts, it must be remembered that at all times it is indivisibly the sum of all these parts, and the container of all the processes and manifestations.

The mind is self-active. This is important to the educator as implying that mental growth and unfolding must come from within. Indeed, it is notable that the etymology of the word, "education," (*E*, out; *duco*, to lead), recognizes this fact. The motive force of mind is generated within; each must imagine his own ideas, form his own judgments, think his own thoughts. The best teacher in the world can produce no greater growth than is measured by the potential power of the self-active mind. W. T.

Harris aptly said, "Educational method is prone to neglect too much the individual peculiarities, and above all to undervalue the self-activity of the pupil in gathering knowledge." And Dr. B. A. Hinsdale said along the same line, "The mind grows only as it is active. Subject to the law of inheritance, a man's soul makes his character through his own activity."

The mind is related to the body during life. The nature of this relationship is a mystery. We look upon the nerves, ganglia, brain, etc., as the basis of this relationship, and recognize particular faculties of mind as localized in definite portions of the brain or nerves. In the body relationship these regions appear to be where certain mental forces manifest themselves. But mental force is not similar to physical force. Physical force always produces some sensible change although it may require a delicate instrument, at times, to detect it; mental force, in its strict limits, may not produce sensible change. In practical limits, however, modern science claims to be able to discern a physical change in the body, and assumes to be able to measure the temperature of a thought, the force of an emotion, the weight of an affection, etc., by delicate instruments. Still, this is but partial; there is something about mental force that can not be measured.

The classification of phenomena of the mind is embraced in Psychology. This is the science of mental facts, and the laws which govern them. It is as necessary that the teacher be familiar with the science of psychology, as that a physician should know anatomy and physiology, or a lawyer know constitutional law. A teacher to know how to develop the mind should know how the mind develops. He should be able to test the correctness of his methods and the grade of work presented from its relation to the developing mind. The correct growth of mind requires the correct mental food and the correct mental conditions.

There are two conditions of mind in which we, as teachers, are concerned. These are Consciousness and Attention. The former is the condition in which the mind

does its work; the latter, the condition in which it is concentrated upon its work. Attention is the condition which is of vital importance in the teaching processes. An extended discussion of teaching must of necessity have much to say of its nature, use and kinds. We hear so much about attention as essential in teaching, that we are prone to forget that it is to be sought like any other desirable quality, only with moderation. The child should voluntarily attend to and cheerfully follow the instruction of the teacher, but this attention should not be strained to the breaking point, by severe exercise foreign to his nature.

The phenomena of the mind may in general be called Powers. They are the inherent or developed ability of the individual. We recognize these Powers as follows.

- I. Sensibility: power to feel,
- II. Intellect: power to know.
- III. Will: power to direct.

The development of these powers will not be considered here. It belongs to the domain of psychology, and even a brief presentation would require much space. A brief synopsis, however, of the whole subject is appended below, as developed from the standpoint of the teacher:

POWERS OF THE MIND

- I. Sensibility: power to feel. Phenomena, feelings.
 1. Physical feelings: animal, from the body.
 - a. Sensations: feelings caused by physical activity.
 - b. Appetites: periodic or intermittent feelings occasioned by vital wants of the body.
 - c. Instincts: automatic feelings occasioned by sensation and appetite.
 2. Psychological feelings: rational, from the soul.
 - a. Emotions: feelings of internal excitement of soul.
 - b. Affections: feelings of internal fulness of soul.
 - c. Desires: feelings of internal cravings of soul.

3. Voluntary feelings: educational, from the will.
 - a. Imitation.
 - b. Emulation.
 - c. Ambition.
- II. Intellect: power to know. Phenomena, faculties.
 1. Acquisitional phase: outside-in process.
 - a. Presentative faculties.
 - (1) Objective: Sensations, empirical knowledge.
 - (2) Subjective: Intuition, rational knowledge.
 - b. Apperceptive faculties.
 - (1) Perception: faculty of receiving a sensation or an intuition.
 - (2) Conception: faculty of acquiring by combination of percepts, or other concepts, or both. "Understanding."
 - c. Retentive faculty: Memory, faculty of retaining and recalling knowledge.
 2. Assimilational phase: inside process.
 - a. Representative faculties.
 - (1) Recollection.
 - (2) Remembrance.
 - b. Elaborative faculties.
 - (1) Rational.
 - (a) Judgment: establishing quality or likeness.
 - (b) Reason: drawing conclusions.
 - (2) Creative: Imagination, creating new relations.
 3. Expressional phase: inside-out process.
 - a. Speech.
 - b. Composition.
 - c. Gesture.
 - d. Art, Sculpture, Music, etc.
- III. Will: power to direct. Phenomena, acts.

IV. THE GROWTH OF THE MIND

Growth presupposes four things: (1) A vital element inherent in the thing capable of growth, (2) Aliments, or Foods, appropriate to the growing thing, (3) Conditions and Environment tending to development, and (4) Products of Growth.

In the case of Plant Growth, we recognize the necessity of the vital principle being in the seed. Without it, growth would be impossible, regardless of the care and work bestowed upon it. This seed must be placed amidst the aliments from which it can obtain the material to be assimilated and added to itself. These aliments are known as phosphates, nitrates, and other chemical elements and compounds. The germinating seed and the growing plant must be surrounded by a favorable environment of warmth and moisture, trained to assume the position most favorable, pruned, and cared for. As a result of these things, it reaches maturity, fulfills its mission, bears the expected fruit and in due time perishes.

In the case of the Growth of our Body, we likewise recognize the indwelling vital principle. It is the thing which distinguishes the living from a dead body. This body must be fed upon an aliment appropriate to its needs. These foods are known as proteids, sugars, fats, and minerals. With proper environment of pure air, proper moisture, warmth, clothing, exercise, and care, the body grows and comes to maturity. It functions into force, and work, fulfills its mission and in due time perishes.

So of the Mind. It contains the indwelling vital element. Through it, the healthy, normal child is self-active. Just as the seed of the plant contains the possibility of growth and development, an inherent, self-contained vitality which can not be added to from without, so the mind of the child possesses a vital possibility which is capable of growth and development.

The subjects taught are the foods for mind growth. But food alone is not enough. There must be a reaction to the food stimuli in digestion, and an exercise of the tissues produced by assimilation. Growth takes place through activity. We know there can be no physical growth without exercise, neither can there be any mental growth without it. The healthy child enjoys physical exercise. He is happy in his play because it is the normal means of exercise. In like manner, the child is happy in his mental growth. His mind is filled with questions he wants answered, with a healthy curiosity he wants satisfied. Through this his mind grows. Too often the teacher and his methods of procedure crush this spontaneous growth of mind, and we reduce him to a passive recipient of poorly adapted instruction. This mental exercise intruded too often produces arrested mental development. If there is one practical thing, one well-authenticated truth, taught by the Montessori method, it is a recognition not only of the inherent self-activity of the child, but the possibility of its exercise of mind being natural and spontaneous when properly directed.

Consciousness is the condition in which the mind does its work. It is not the same in any two minds even though they be following the same thoughts, for the thoughts of each are modified by a tinge, or a setting, of all the personal mental accumulations. The consciousness of the very young child is not the consciousness of its older years. Consciousness changes. The primary act of consciousness is sensory perception, and intuition. At first it is reached only through the senses. Sensation leads to perception. Along with such percepts, come those of intuition. Awakening of mind comes from the stimuli of external objects. By such reaction it begins growth. The assimilation of such stimuli arouses feelings, and as the "mental tissues" thus grow through exercise, these feelings are expressed in action.

Mind exercise is the act of learning. The three phases of exercise are acquisition, assimilation, and expression.

Acquisition from the psychological standpoint includes percepts, concepts, and retention. There is no real acquisition without retention. Just as the greatest physical growth occurs in childhood, so the greatest mental growth occurs at that time. The memory is more retentive in childhood. Then, as later, associated facts are more readily retained. The acquisition itself comes through sense-contact. The object outside becomes the image-percept, and this in turn goes to make up the image, which forms the concept. It is an "outside-in" process. Not that there is any definite transfer of any material thing from without to the mind, but because the stimuli from without cause a reaction of the faculties within and the mind grows through the mental facts added as a result of its self-activity.

The second phase of mind growth is called assimilation. It is also spoken of as the "inside" process. It consists of recollection, judgment, generalization, or reason, and imagination. The assimilational phase is not as strong in the young child as it becomes in later years. His acquisition is likely to be fragmentary and not systematic. The completing of fragmentary knowledge through reason and the imagination, and the classifying and systematizing is present in a small degree. Hence, the necessity of the teacher attending to the presentation of associated sensations and ideas. But as the child becomes possessed of an abundant wealth of material, he passes to a higher phase of exercise, and judgment, reason and imagination strengthen. As a result of this phase of mental growth, a process similar to fructification in the plant occurs. Original ideas are evolved, new relationships of thought are formulated. The child really thinks in the fullest sense. But just as the fruit of the plant must be used by some other life form, or expressed in reproduction, so the results of thought must be given out that others may use it, or it must be planted in other minds that it may there be an aliment for mind growth. This leads to the phase of Expression, the "inside-out" process, which finds exercise in speech,

composition, gesture, music, art, and sculpture. As the assimilational phase seems to be a more highly developed one than the acquisitional, so the expressional phase is higher than the assimilational. While the little child has some power of expression, we look for it only in a rudimentary degree. The composition tasks of the little child are not easy because his facts are few and poorly assimilated. As well try to draw fish from an empty brook as try to get facts from an empty brain. The only road to success in composition is not in its expression, but in the preparation for it. It must be preceded by an abundance of facts acquired; these facts carefully assimilated, imagination exercised, and then the mind is stored with something to write. The child will express in some way, if it has anything to express.

It is possible to classify the general divisions of knowledge as set forth in text-books into groups on the basis of their rank as mind foods. The acquisitional studies include Science and History; the assimilational ones, Mathematics and Philosophy; while the expressional studies include Literature, Language, and the Arts. Of course, each of these branches contains portions that are at once acquisitional, reflective, and expressional, but as subjects their great value in mind growth is as indicated.

In arranging a course of study for various grades, this theory of mind growth has a use. The lower grades should start with matter which is largely acquisitive. Reading, spelling, drawing, writing, are all acquisitional in their attainment, but expressional in their use. Nature study, and descriptive science, much of history, the tables and fundamental rules of arithmetic, the vocabulary and easier studies of language, the stories and plots of literature,—all consist of acquisitional processes. In the grammar grades, and the high school, the reasons and deductive generalizations of science, the so-called philosophy of history, the solutions of abstract problems in arithmetic and algebra, and geometry, the technical distinctions of language, and the philosophy and form of literary expression,

belong more especially to the assimilative processes. Such are continued into the College curriculum through the higher mathematics, the logic, the psychology, criticism, theory of government, and economics, and the history of philosophy, etc. In the high school and college, the higher phases of expression have an important part consisting of composition, manual training, constructions of charts, diagrams, outlines, synopses, rhetorical, laboratory work, note-books, debating, orations and the like.

The processes of mind growth from the teaching viewpoint, follow largely the order of logic and the science of psychology. Methods must rest largely upon the processes as there set forth.

In teaching, the Sensations must be recognized as a starting point. The senses are capable of exercise, and thus of growth. Of course the extent of this exercise and growth is consequent to the self-inherent possession of the individual student. One original defect of education was the failure to recognize the senses in their relation to correct method. Modern education has rectified this negligence to a great extent. Every highly educated person has been one whose sensations were alert, whose observation was trained. In some cases this is accomplished entirely without the assistance of the teacher; indeed, in some cases opposed by the teacher. The superior attainments of Shakespeare, Milton, and Newton, rested upon a basis of senses trained. Agazziz was an exponent of the value of trained senses in education.

Next to Sensation comes Conception, and its processes of interlinking through Perception. Conception as a faculty is a product of a process conforming strictly to the growth of Mind. In its full procedure, it recognizes these stages:

1. Presentation, by which percepts, sense-percepts, and other percepts are placed in consciousness. These may be newly acquired, or drawn from the memory as needed.

2. Comparison, which is a mental process in which

the elements of knowledge presented are associated, or placed side by side for examination.

3. Analysis, which is a process of noting these parts, or elements in their relation to the ideas compared.

4. Abstraction, which consists of drawing off and grouping like parts or elements as noted through analysis.

5. Synthesis, which consists of re-combining the known and recognized elements as grouped together by abstraction.

6. Classification, which is a process of re-associating the grouped elements on some basis.

7. Generalization, which is a summing up of a common basis.

8. Denomination, which is an assignment of a term, or word, or symbol, to represent the product of the conception.

9. Definition. The processes thus carried out lead to a mental grasp which enables a descriptive explanation of the idea, in other words, to a defining of the term.

Very much of mind growth consists of such processes. Starting with sensations unrecognized, or terms not understood, the mental exercise proceeds to place in the mind the final concept, generalized and capable of a definition. All learning is thus analytico-synthetic, the synthesis being carried into generalization. It is evident that the process is one of induction, starting with the terms related to known ones, and by comparison leading to an identification.

The products of such a process may next be used as elements of deductive or inductive reasoning, or stored away in the memory for future use. Memory is not so much a matter of putting a fact into the memory, but of so associating it that it can be recalled at will. Exercise strengthens it. Distinct ideas are more readily retained than hazy ones. Intensely interesting ones are more available than abstract ones; we recall best what we have attended to. Cook said, "Attention is the mother of memory, and interest is the mother of attention. To secure memory, secure both her mother and grandmother." Re-

calling is to a great extent a habit; hence, repetition and drill are essential to it.

The assimilation of food for the mind begins with the stages of conception. Beginning with clear concepts, inside processes, reflections, are possible. Judgment is one of these faculties, and consists of establishing qualities by comparing concepts. It is synthetic, leading to the formulation of propositions, and the thinking of sentences. By comparison of judgments we reason. Reasoning may consist of the Inductive or Deductive processes known to logic. Both have a place in devising Methods of Teaching, and mind growth is possible in each way.

Our educational methods are weak in that the acquisitional crowds too closely upon the assimilational in our courses of study. The child is not given time to think. Too often, he does not think at all. He acquires a fact possibly as words; and then expresses these by a parrot-like repetition. To stimulate thought, verbal expression should be eliminated, in many cases, by propounding questions that require an exercise of judgment and reason to answer. Originality and the clothing of thought in new word garments should be emphasized.

As defective as education is in training to judge and reason, it is equally as lacking in the exercise of the imagination. For all-round mind growth, imagination also must be exercised. It is essential to originality. It is the development which enables the discovery of new ideas, the invention of new combinations, and the progress of mankind.

V. MOTIVES

Much of the teacher's effort is lost because the child is not mentally active. Mental activity is possible only when active attention is present; and active attention must proceed from within the child, if any proper and sustained effort is to be maintained. It is true that, temporarily, the attention may be attracted through stimuli from without, but such are expedients and not for practical continuence. Indeed, it is a damage to correct growth rather than a benefit, to cultivate a habit in the child to depend upon such outside influences for awakening attention, which are thus to serve as motives in intellectual activity. Such means are temporarily useful, and some or all are expedient with certain minds at certain times.

Since "proper growth in motives" is one of the essential parts of the definition of education, and the first of its processes, it is necessary at this stage of the development of the subject to give some attention to the motives that serve in awakening attention and leading toward the proper tendencies and habits. First, briefly let us consider a few of the common motives, which can be classed under Improper Motives. These are—

1. *Physical Pain.* The backwoods schoolmaster of a century ago set this before his pupils as the almost sole incentive to attention, the propelling motive to intellectual growth. The birch and hickory sapling frequently applied, the tingling promptings of the ferule, slapping, boxing, and shaking were the forms used. Others were even more severe and brutal. I am not speaking of these as modes of punishment for broken law, but as motives to intellectual effort. Nor do I admit that in some cases, and at certain ages, under peculiar conditions they are not valuable as motives even in this enlightened twentieth century. But they are not the normal resort, and as a general thing the pupil needing them is not the safe asso-

ciate for the average normal child. They ought to be segregated into special schools where they are among pupils of their kind, and where they can best receive the proper treatment to fit their case. But under ordinary conditions the true teacher can not depend upon such expedients as incentives to a correct mental growth. The motive must be a deeply accepted mainspring of action within the child's mind, which shall at all times be a sufficient and reasonable inspiration to the plodding, patient duties which are inseparably connected with education. Fear of bodily pain is not such an inspiration.

2. *Painful Emotions.* Shame, ridicule, and mental anguish, may at times be found permissible, but it is self-evident that they are not proper motives to a correct growth, and as foreign to that purpose as is the inflicting of physical pain. Indeed, to some natures, they are the worst punishments that might be inflicted, and punishments are not motives. The use of sarcasm, applied to the proper nature and at the proper time, may punish, or prevent the committing of some deed, but it has no value as an incentive to mental growth. Faultfinding, admitted to the school-room atmosphere, is like the smoky hazes which hide the best light and touch the hopes and sunshine of youth with unnatural shadow and tinge. The child who is attent upon mental effort through fear of pain to his sense of justice, or to his sacred feelings, and holiest emotions, is not in a condition for the correct growth of mind and the forming of proper habits.

3. *Rewards.* Under this, will be classed such expedients as prizes, medals, and money. Some teachers appeal to the motive elements in the child through promised rewards; some parents pay the child money, for the performance of the little acts which should be the expression of a voluntary and mutual part in the home organization and well-being. Both of these acts are an appeal to a debasing motive, rather than an elevating one. It is consistent with the bloodthirsty commercialism of the age, but is a motive of the selfishness instead of the

sympathies which must characterize the real golden age. There are things of real worth in life which money can not buy; there are states and conditions which are more satisfying than decorations and medals and orders and prizes. Happy is the child whose mind has not been blunted to feel this holy state of conscience and of power.

4. *Shock and Surprises.* It is a difficult matter to find a term which shall be sufficiently inclusive and designative for these motives. Of this class, are the devices of anecdotes, jokes, the play of wit, the vestment of the clown, the trick of the wizard, the condition of open-mouthed wonder on the part of the pupil, as to what the teacher will do next. The improper motive leading the child to look upon education as an entertainment, and the teacher as the chief entertainer is not to be commended. Even our text-books are not immune to the contagion. These devices must not be made motives; they are rightfully but incidentals, the little touches of color, the flashes of sunlight, the aroma of spices, the whispers of the music of the breeze.

There are many other motives that may be listed as improper, but the few examples given are typical of the class. They show the source of attention as resting upon the things from without and not from within. If the mind must develop from within, its motives must come from within. The teacher can no more than awaken and encourage the weak motive, and help it become strong and root deep into the nature and habits of the child. Attempt to transplant motives from without, is an appeal to a force that must lose its effects as soon as the force is removed. Proper motives are a part of a proper education. The motives must be adapted to the stage of the child's development is true, but they should tend always toward appealing to the highest and best elements of the child's nature. The one great and overmastering motive in true education is—

Love—What higher motive is possible? "God is love," says the Apostle of Love. "God so loved the world," is the key to the redemptive death of Christ. Love is the

great motive of Heaven and of earth. It is the unseen clockwork of the eternal swing of the stars through space, the everlasting melody of the music of the spheres. It is the vitalizing nucleus of the germ of the Divine within us. No wonder the philosophy of the philosophers led Paul to write, "And the greatest of these is love." As a motive, or rather as the motive, in Education, it is exhibited in several forms, and each of these manifestations has a proper place and part in mental development. They are mentioned as follows in the order of psychical development:

1. *Love of Self.* Self-love can not be made the predominating influence in mental and moral growth, but it is essential to any well-rounded character. The person who has no esteem for his own body, and soul, and mind, is beyond the possibility of development into anything good or wise. This motive should not be inordinately developed or encouraged to the point of selfishness. The little child, however, possesses a strong motive in this element, and the proper appeal to it is a correct motive to upward progress. Predominant in the beginning of the educational processes, it should become the least of many ways in which the fully grown character answers to love as its supreme motive.

2. *Love of Parents and Teachers.* As the child grows, another love develops, the love of parents and teachers. If love of self has been but properly used as motive in growth, the child glides into this second stage naturally, and the favor of the parents, the approval of the teacher, both become the motives for leading to mental and moral development. The boy who remains courageous enough, and heroic enough, and manly enough, to be true to his parents' teaching, is capable of almost unexpressible development and growth in all that makes for true greatness. There never has rung a truer sentiment in the history of the Republic than that laconic sentiment from one raised to the highest position in the power of freemen, "Tell mother I'll be there." There is always hope for the child whose love for parents is so great that he can face

every temptation with the words, "What would mother say?" "Is this what father would advise?" Some of the development of the child must be intrusted to another, to one supposedly more skilled in certain phases of child growth, the teacher. Are you going to be true to the charge? To be fully what you ought to be, you must so direct your life, and train your character, that the loving, trusting child shall find in you, a personality to love, an influence to direct, and a motive to work. Happy, indeed, the teacher whose very presence radiates love!

3. *Love of Friends.* From parents and teachers the child reaches out to a few kindred souls beyond its limited circle. And what a psychological instant it is; so fraught with future bias. Time does not enable me to speak of the part such ones properly chosen and properly used can have in educative growth. Much of the trouble at certain ages in the life of the pupil comes from this association becoming so strong that even the love of parents is cast aside. Teachers recognize this stage as the "influence of combination." Combination against discipline is noted, against order, even against right and justice.

4. *Love of God.* Love of God, through a realization of what Christ has done, is the only influence which fully nullifies the troublesome element in the influence of combination mentioned above. Human nature is so constituted that just as the danger is greatest, the love of God has its most intense influence upon the mind of the boy or girl. It is at this age that about three-fourths of the conversions to Christianity occur. The wise teacher who strives for the growth of the mind of the pupil in correct directions, must work with the awakened conscience. Here is where Christian education becomes a powerful force, but education without the testing standards of moral as well as intellectual worth, will incline to the unbelief, the speculative, the mere husks of morality, which have characterized so much of modern education. Christian education is not a mere sound of words but a crying need of the twentieth century growth.

5. *Love of Humanity.* A full recognition of the fatherhood of God, and the yielding to its spirit in growth along mental, moral, and physical lines, must waken an interest in God's most perfect creation, the brotherhood of man. The student who has not yet come into a realization of his need to the world, his social obligations, his part in the salvation and betterment of his fellows, the responsibility of dedicating his life, his acquirements, his special gifts and developed talents, to service, still lacks something of the fullness of complete growth.

6. *Love of Knowledge.* When the student comes to love knowledge so that he really enjoys study, and finds no task too hard, no plodding too irksome, no lesson too long, but loves supremely to study and enjoys his freedom in diving deep into the depths of the great sea of things known and unknown, he needs no other motive. He is educated, even if only half through his college course. Without this, no student is educated, even though a graduate of a college, and a post graduate of a university.

7. *Love of Truth.* This is one of the last things the student comes to recognize as a motive for the educational processes because it is one of the unnoted ones. The student's continuous efforts, his dealing with facts, his appeal to reason, his conclusions, lead him more and more to love the truth even though he may be unconscious of the fact. The false, the unprovable, the fraudulent, is avoided as a result of his growth in this condition. It thus becomes one of the mighty motives in human development.

VI. THE TENDENCIES IN EDUCATION: OBJECTS

Educative processes must of necessity tend toward some object, or the accomplishment of some purpose. To one who has his eyes fixed upon the mere grind and plod of knowledge's road, the whole glorious sky of possibilities is shut out. There are teachers who have taught for a quarter of a century knowing no object all these years save the accumulation of knowledge. Like Gradgrind in Dickens' story, "Hard Times," their ideal of education is dry facts. Blundering may be excusable, and even necessary in some things, but in training the growing mind, the blunderer is a criminal of the worst type in that he is dealing not only with the mutable mind but with its eternal tendencies as well. The true teacher must have clear objects in view for his educative efforts,—objects which serve like standards of measurement, as the unit by which every step in the pupil's mental growth is tested. Toward the accomplishment of these efforts every energy should be bent.

We hear much these days about methods and plans. Shall the teacher become a mere machine, a creature of such devices? Shall he possess himself at random of ready-made expedients, the cast-off clothes of some pedagogical visionary? Such methods may be suitable or they may not be. Everything paraded as sound pedagogics is not true to its label. We need a mental pure food law. What surer means then for enabling the teacher to sift the true from the false than to test it by his knowledge of what education is for, and the tendencies toward which his devices must carry him?

Herbert Spencer's ideas of Education might serve as our objects were we to consider mankind as having no higher mission than ministering to self. His objects, arranged in order of importance, were: Self-preservation, Securing the necessities of life, Duties of parents, Social and

political purposes, Advancement of leisure. For egotistic development his tests are adequate. But despite his splendid logic, such do not fulfill the Divine purpose of man. Altruistic development is the true direction. The real objects in education, and arranged in the proper order as determined by importance are:—

1. Increased Power for Good: Philanthropy.
2. Increased Capacity for Enjoyment: Pleasure.
3. Increased Ability for Success and Gain: Profit.

Increased Power for Good ranks first. He who hurls defiance at Divinity and transgresses the social restrictions of man is not educated though he be able to out-reason Socrates and out-generalize Newton. There is something more in man's development than blind chance or natural evolution. Selfishness and selfish motives may overthrow nations and disorganize society, but such motives will not lift to higher planes of civilization. We hear much about the scientific method of study; indeed, it is the guiding light at present in American university research: Not content with applying it to its legitimate field, they have attempted to reduce Religion to a science, perform laboratory dissections upon the Revelation of God, and even limit God to an object of experiment and test according to scientific methods of procedure. It is a condition supremely ridiculous were it not so seriously dangerous. The lack of the true motive and the true tendencies in education leaves us without a clear idea of what education is. The oft-repeated statement, "Some of the most highly educated men are found in the penitentiary," is false. That men of superior attainments in knowledge are occasionally found there is readily granted, but they were not educated. Their minds had not grown in the normal manner. They are monstrosities. Power for good is the first great unit of educational measurement. All teaching is vain which does not promote it; all development is abnormal which can not be measured by it. If every teacher should measure his progress by this standard for the next hundred years, cannon would

rust away, drunkenness perish, jails crumble into ruins, and labor and capital join fraternal hands, while the glorious sunshine of God's universal Church would bathe the earth. Capacity to do good and inclination to do it, increasing from day to day, ought to be a natural outcome of our constant use of text-books. Truth, wherever met and whatever its conditions, is still truth. In educational growth, there is a constant comparison and judging of facts; the real are established, the false are rejected, truth is upheld. It fastens itself like coverings of eternal granite upon every mental fibre and then binds them together by habit until every talent possessed is firmly protected from the sweeping hurricanes, and stands firm, a solid power for good. Mere accumulations of facts, dates, or rules, are not enough. Teachers and pupils ought to understand that the development of every faculty and talent but increases the responsibility for the right use of it in the elevation, Christianization and civilization of the race. No one individual has all talents, still everyone has some. The capacity to use rightly that talent is the prime object of educational struggle. Education is not religion, but religion in education is as necessary as in any other function of life.

The next object is *Increased Facility for Enjoyment*. Enjoyment and Pleasure are rightful motives in life, but far from being the sole motives. Education not only ought to make proper enjoyment a motive, but it also should guard against much falsely-called enjoyment, which in the final analysis proves to be nothing more than a deeply-hidden device of the evil one to entice and destroy. Pleasure is capable of bringing the highest condition attainable, or of plunging into the lowest depths of suffering and remorse. To the educated, there is an enjoyment that flows from knowledge, culture, and literary taste, that the uneducated can never know. There is a contentment that springs from an educated conscience and disposition, a power to rise above the sorrows and disappointments of life, a pleasure that hallows and softens the student's

struggle. Who has not tasted the solace that a good book can give the mind? And education is, after all, but an increased ability to understand what we read. In general, our reading is confined to the books we can correlate with our everyday experience. Carlyle's statement that "The best University is in a collection of good books," has a depth of meaning. But educated enjoyment is not alone in printed pages. The book of nature is spread open all about us, and each day but turns a page. The God-given mind within us speaks joys that only meditation can hear. The beauties of the jeweled canopy of night have an added luster for one who understands, and he can catch the melody of the singing stars, and measure the steady tread of their onward swing. The voice of wind, the murmur of the rippling brook, the flash of brightest lightning, and the roar of heaven's artillery, are all sources of interest, pleasure, and enjoyment, to one who understands instead of superstitiously fears them. In what a different sense the learned look upon a flower, a fossil, a leaf, a shell, or an insect. If God had meant we were not to enjoy these gifts He would never have spread the emerald tints, and azures, gold, and crimson, before our curious minds: He would never have attuned our ears to music and the cadence of oratory: He would never have given us the artist's enjoyment of motion, of grace, of color, and perfection of form. Through the promise of labor, the sweating brow, and the aching head, the student rises from the sordid dust to the Eden regained. He who is truly educated, in sensibility, in conscience, in intellect, in soul, in will, has a wonderfully increased power for true enjoyment.

Last of all objects in education is the *Increased Ability for Success and Gain*, but it is a legitimate object. The college graduate no longer feels compelled to apologize when he finds himself among successful men, for he finds the most of his associates are of like attainments. The most successful business men of our land are the best patrons of our colleges. The reason is evident. In this age of intense competition, the parent who fails to educate his

child to the utmost limit of his means,—dependent upon the health and nature of the child,—is guilty of a real crime, even if not so specified among the statutes. There are a small number of successful men today who are so because of some talent possessed, but the greater part are those who are made so by education. There are many stenographers who can not hold positions,—though having great speed,—solely because they are not intelligent enough to compose and spell properly in an ordinary business letter, and while able to write from dictation, they have not intelligence sufficient to understand their employer's business to avoid making expensive and aggravating blunders. What is true of stenographers, is as true of mechanics, book-keepers, telegraph operators, clerks, and teachers. Invariably, it is the capable, intelligent, educated employee who receives promotion, and sooner or later, the educated brain forges ahead to success and financial gain. The mere ability to differentiate an equation in calculus or other equally abstract mathematical process is not worth a cent in practical value, but the trained mind upon which the process has reacted is worth thousands of dollars. The ability to state the size of an atom is worthless in itself, from a financial standpoint, but the discipline of mind, the acuteness of thought, the concentration of the attention upon the imaginary abstractions which reasons to the size of the atom is the tangible, and valuable, and costly skill which turns the practical into running streams of gold.

VII. HABIT IN EDUCATION

In the development of our definition, motives naturally result in tendencies, and tendencies in habits. For a full discussion of habits, we must suggest, as a foundation, the material reaction in nerve tissue. Doubtless, all of habit is not physical, and may exist with little or no material relation, but our infinite nature is so much the creature of our finite sensations that no worthy consideration of habit can be had, if it be neglected. Halleck recognizes this when he stated, "A well-trained nervous system is the greatest friend that the mind can have. An ill-trained nervous system is the relentless enemy to the highest mental powers. . . . An adult may be approximately defined as the sum of his youthful nerve reactions, which tend (through habit) to perpetuate themselves."

Habit is much more closely related to matter than motives or tendencies; indeed, it is to a certain extent the result of a continual application of the intellectual moved through emotion, directed through tendency, strengthened through sensation, applied through volition, and terminating upon the nerve tissue. The psychologist treats sensation, conception, and memory as the result of habit, but might it not as well be reversed and habit considered as a result of sensation, conception, and memory? It is merely a decision as to whether cause and effect are to be considered from the standpoint of material or of final, in scope.

There is a universe of mystery wrapped up within the personality of every one. It is located at the boundary line between mind and matter, between the thought and the nerve tissue, where the atom and the soul are in touch. We must admit of thought independent of nervous energy, but few indeed are they who can think such thoughts. So true is this, that the follower of scientific method will deny such a possibility, since reason and experience are decidedly against any such assumption. I must not make

of this a hair-splitting dissertation in metaphysics; or more, a journey into the supernatural. No difference how interesting such a discussion might be, or how much of truth it may contain, it is foreign to a generally accepted view of education. He who educates, and he who is educated, are so much within the limit of matter, that we can safely say with Dr. Roark, "Wherever gray nerve matter is found, whether in plant or in animal, there is mind." And still we must not forget that, above all, there is something beyond matter. In our day the thing we call matter is becoming so impotent. They crucified the material body of Christ, but his spirit made Christianity. We reduce educational processes to development of nerve matter, but we are coming to recognize that through it we must touch those higher attributes, or the task is not complete. In psychology, the same is true. The nerve ends of touch come in contact with an apple, an impulse darts along the nerve fibres to the brain; the wave of light radiated from its surface penetrates the eye and impresses the nerve ends of sight, of shade, of shadow, and of color, and this impulse also darts along the nerve fibres to the brain; the volatile particles of the apple float through the nose, wafted on the air, come into contact with the nerve ends of olfaction, and these impulses also dart along the nerve fibres to the brain; the apple flavors are dissolved in the mouth, and come into contact with the taste buds, again an impulse darts along the nerve fibres to the brain. Cells in the brain reached by these various impulses, project their coiled-up fibres and form close contact with numerous other fibres, and with each other, and through such mechanical means, the touch, color, form, odor, and taste of the apple are denominated to the mind, compared, judged, reasoned about, imagined in old and new relations, and blended into a generalized idea of an apple. But is this a mere condition of the matter of the brain? The materialistic psychologist claims so. But when we learn that nerve matter has been destroyed and the blood at this instant is leaving the brain loaded with thousands of the shattered

particles destroyed in this mental act, and that in time every particle of the matter involved may be carried away, while the idea still remains, it is evident that there is more than a condition of matter involved. Nerve tissues may come and nerve tissues may go, but the idea remains forever. But in education we are not so much concerned with the idea formed, as with the training and means of forming it, and in this we can accept all material changes and conditions that are involved.

Concerning the matter involved, Ribot said, "A rich and well stored memory is not a collection of impressions (since the impressible matter is temporary), but an assemblage of dynamic associations, very stable and very readily called forth." Herig adds one more link in the chain leading to habit, when he says, "If the substance of the brain is excited and intensely agitated by an irritation which has been transmitted through the nerve fibres of the sensory organs, an increased ability to reproduce the same kind of irritation is acquired by a permanent change of its internal structure. If the sensory nerve again transmits the same irritation, the cerebral substance responds to it more easily." Halleck defines habit and explains it from this standpoint when he said, "Habit is, therefore, a bundle of memories or tendencies to act again in a way in which we have acted before."

Such a consideration of habit leads to its definition. Habit is a training of the nervous system and its functions to involuntary, automatic and reflex action. In habit, the nerve tissue of the body has become so organized as to not only carry out the deliberative acts through promptings of the mind, but to act in a pre-arranged manner, without dictation from the mind. A definite action or thought leaves the nerve tissue involved, in a certain condition; a repetition of the action of thought serves more intensely to fix the condition, and so on, until the same result is so easily performed through suggestion, that under proper circumstances, it will be produced without the suggestion. In our own personality and character, then,

our acts and thoughts do not perish. Their results do not end with the setting sun; they are as imperishable as ourselves. What I do and say to-day, is almost wholly the natural result, through habit, of what I did and said yesterday, last week, last month, last year, in childhood, in youth. One action fitted the nerve tissues to act with greater ease in the same way again. Even inanimate things acquire the habit of making wonderful reactions to stimuli. A strong bridge may be shaken by the trotting of a little dog whose pace is attuned to its vibration time. It is well known that the wood of a Cremona violin, which has been used by the hands of none but masters, gradually acquires a molecular tendency to harmonious resonance. If habit, then, is possible in inanimate matter, it is even more so in living tissue. Our very life is made possible and pleasant through habit. Not a minute of our waking experience but habit is relieving our mind of some of its otherwise mechanical and absorbing actions. Walking is a habit. Talking is a habit. Almost every movement is a habit. The little actions of long ago, like filmy cobwebs easily broken, have become the immense cables binding us to unyielding habit. We hardly think a thought in the average day of life's experience, but it has been limited through habit. Wundt said, "I, myself, am inclined to hold that man really thinks very little and very seldom. Many an action which looks like a manifestation of intelligence most surely originates in association . . . There is hardly a movement of the human body, however difficult, which we cannot by continued practice and repetition reduce to a mechanical certainty so complete that it will be performed, even without any attention on our part, as the necessary reaction to certain sense-stimuli."

Since habits are potential conditions of nerve tissue, the best time to properly impress it is during its period of greatest growth: the years devoted to education. Briefly stated, the leading principles of habit-forming are the following:

1. Confidence in our ability, or faith in a suggestion,

is realized in an act, which repeated often enough forms a habit.

2. Action is necessary for forming habit and character. Learn to do by doing. Experiment, observe, express through motor activity.

3. We ought to do an act first as it will be required to be done for all future time. It is extremely difficult to form one habit to overcome another habit.

4. Each action repeated deepens the tendency to act again in the same way. Friction must be overcome. The act must be repeated until it becomes easy.

5. Exercise is necessary in habit forming. Nerve cells should be exercised to the point of reasonable fatigue, so as to be placed under the proper condition for being made stronger by the blood-carried nutriment which they will then be in a condition to assimilate.

6. Order is a habit. A child should be taught that the sensation due to recognizing a thing out of place must be followed by the action necessary to put the article back into its place.

7. Uniformity in habit training is essential. It means failure to the true development of habit to permit the child to react to a certain sensation in one way today, and another way tomorrow.

8. The fundamental habits are truth, attention, promptness, exactness, patience, system, and order. These will lead to the forming of correct habits of study, thought action, expression, and character.

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